Package	Function	Description
Base	print	show in concise format a string or variable(s)
Base	display	show in long format a string or variable(s)
Base	typeof	return type of variable
Base	isa	check if variable is of a given type
Base	string	convert value into string
Base	parse	convert string into specified type
Base	split	split string into array of strings given a delimiter
Base	join	join array of strings into single string with given delimiter
Base	length	return how many elements in array
Base	sum	add all elements in array together
Base	prod	multiply all elements in array together
Base	isempty	check if array is empty
Base	push!	add element to back of array
Base	pop!	remove element from back of array
Base	pushfirst!	add element to front of array
Base	popfirst!	remove element from front of array
Base	reverse	reverse array
Base	zeros	return array full of 0s of given dimensions
Base	ones	return array full of 1s of given dimensions

Base	size	return dimensions of array
Base	hcat	horizontally concatenate array
Base	vcat	vertically concatenate array
Base	keys	return iterator over keys
Base	values	return iterator over values
Base	collect	turn iterator into array
Base	findfirst	given a function, return index of element in array which first satisfies it
Base	findall	given a function, return index of all elements in array which satisfy it
Base	dump	show all attributes of struct
Pkg	Pkg.add	download package
Pkg	Pkg.status	check version of package
Pkg	Pkg.update	get newest version of package
Random	Random.seed	set seed for default random number generator
Base	rand	randomly select n items from collection (if no collection is give, choose float between 0 and 1)
Base	randn	drawn sample from normal distribution to fill array of given dimension
Random	bitrand	return bitarray of given dimension with random 0s and 1s
Random	randexp	drawn sample from exponential distribution to fill array of given dimension
Random	randstring	return string with random characters of given length
Random	randsubseq	generate random subsequence of given array with probability p of including each element
Random	randperm	return random permutation of indices of array

Random	shuffle	return shuffled version of array
Dates	now	return Date object of current time (can be subtracted to give time difference)
Logging	@info	create log record with informational message
Logging	@warn	create log record with informational message
Logging	@error	create log record with informational message
Statistics	mean	return mean of array
Statistics	median	return median of array
Statistics	std	return standard deviation of array (set corrected=false for biased estimator and not / N-1)
Statistics	var	return variance of array (set corrected=false for biased estimator and not / N-1)
Statistics	cov	return covariance between two vectors
Statistics	cor	return Pearson correlation between two vectors
Statistics	quantile	return quantiles of array at specific probabilities
LinearAlgebra	tr	return trace of (square) matrix
LinearAlgebra	det	return determinant of (square) matrix
LinearAlgebra	inv	return inverse of (square) matrix
LinearAlgebra	transpose	return transpose of matrix (‘ is shorthand notation)
LinearAlgebra	eigvals	return eigenvalues of (square) matrix
LinearAlgebra	eigvecs	return eigenvectors of (square) matrix
LinearAlgebra	svd	perform singular value decomposition on matrix
LinearAlgebra	pinv	return pseudoinverse of matrix

LinearAlgebra	dot	return dot product of two vectors
LinearAlgebra	cross	return cross product of two vectors
LinearAlgebra	diagm	return matrix with given vector on diagonal
LinearAlgebra	diag	return diagonal of matrix as vector
LinearAlgebra	cholesky	return Cholesky decomposition of (positive definite) matrix
LinearAlgebra	isposdef	check if matrix is positive definite
LinearAlgebra	issymmetric	check if matrix is symmetric
LinearAlgebra	rank	return rank of matrix
LinearAlgebra	norm	return norm of vector (default is p=2)
LinearAlgebra	normalize	return normalized version of vector
LinearAlgebra	nullspace	return nullspace of matrix
ProgressBars	ProgressBar	place like ‘for i in ProgressBar(1:1000)’
ProgressMeter	@showprogress	place like ‘@showprogress for i in 1:1000’
BenchmarkTools	@btime	show time take for function to run (and memory allocations)
BenchmarkTools	@benchmark	show more details statistics about function runtime
Base	@elapsed	return time it took for function to run (not as reliable)
FileIO	load	load data file at given path
FileIO	save	save variable at given path
CSV	CSV.read	read .csv file into DataFrame
CSV	CSV.write	write dict/DataFrame to .csv

Base	readlines	return iterator of read .txt file line by line
MAT	matread	read .mat file into dict of variables
MAT	matwrite	write .mat file from dict of variables
JSON	JSON.json	convert data into json string
JSON	JSON.parsefile	read .json file into dict
Plots	plot	everything a plotter will ever need to do (defaults to line plot)
Plots	scatter	create scatter plot
Plots	histogram	create histogram plot
Plots	histogram2d	create 2d histogram plot
Plots	heatmap	create heatmap plot
Plots	bar	create bar plot
Plots	vline	create vertical lines at x positions of given array
Plots	hline	create horizontal lines at y positions of given array
Plots	pie	create pie chart
Plots	annotate!	place string on (x, y) position in plot
LaTeXStrings	latexstring	convert latex into string to be displayed (use \\ for latex symbols)
Plots	savefig	save current figure at path (can be .png, .jpg, .svg, .pdf)
StatsPlots	marginalhist	create 2d histogram with marginals
StatsPlots	marginalkde	create kernel density estimate of marginalhist
StatsPlots	cornerplot	scatter plots of columns of matrix against each other

StatsPlots	andrewsplot	create Andrews plot to find low dimensional structure
StatsPlots	qqplot	create quantile-quantile plot to see if distributions are similar
StatsPlots	qqnorm	create quantile-quantile plot to see if distribution is similar to normal
StatsPlots	covellipse	draw covariance ellipse as circle
StatsPlots	violin	create violin plot
StatsPlots	boxplot	create boxplot
StatsPlots	dotplot	create dotplot
Plots	@animate	use as '@animate for i in 1:n_frames'
Plots	gif	create gif from animation
Base	Threads.nthreads	return number of threads available
Base	Threads.@threads	use as 'Threads.@threads for i in 1:1000' (careful for data race!)
Distributed	nprocs	return number of available workers
Distributed	addprocs	add specified number of workers
Distributed	rmprocs	remove specific worker by id
Distributed	@everywhere	apply code to all workers' memory
Distributed	@distributed	use as '@distribute for i in 1:1000' (data must be shared across processes!)
DataStructures	enqueue!	add element to datastructure
DataStructures	dequeue!	remove element from datastructure
DataFrames	describe	gives short description of every column in DataFrame
DataFrames	names	return array of column names of DataFrame

Base	propertynames	return array of properties of object
DataFrames	groupby	return array of DataFrames for each unique value in given column
DataFrames	dropmissing	return DataFrame without missing values
StatsBase	sem	return standard error of the mean of array
StatsBase	iqr	return interquartile range of array
StatsBase	mode	return mode of array
StatsBase	skewness	return skewness of array
StatsBase	kurtosis	return kurtosis of array
StatsBase	geomean	return geometric mean of array
StatsBase	harmmean	return harmonic mean of array
StatsBase	describe	return list of statistics of interest of array
StatsBase	zscore	return zscore'ed version of array
StatsBase	entropy	return entropy of probability distribution
StatsBase	crossentropy	return cross-entropy of two probability distributions
StatsBase	kldivergence	return KL divergence of two probability distributions
StatsBase	rmsd	return root mean squared deviation of two arrays
StatsBase	countmap	return dict with unique values of array and how often each occurs
StatsBase	proportionmap	same as countmap but normalized by length of array
StatsBase	ordinalrank	return ranking of array [3, 1, 1, 2] -> [4, 1, 2, 3]
StatsBase	competerank	return competing ranking of array [3, 1, 1, 2] -> [4, 1, 1, 3]

StatsBase	denserank	return dense ranking of array [3, 1, 1, 2] -> [3, 1, 1, 2]
StatsBase	wsample	return n samples from array where the probability of choosing each element is specified (weighted)
Distributions	pdf	return probability density for given distribution at given x values
Distributions	cdf	return cumulative probability density for given distribution at given x values
Distributions	truncated	turn distribution into truncated version given lower and upper bounds
Distributions	fit	return fitted distribution given array of values
HypothesisTests	pvalue	return pvalue of a test
PythonCall	pyimport	return imported python package
PythonCall	pyexec	execute a piece of python code
RCall	R	placed before a string, will execute string as R code
MATLAB	mat	placed before a string, will execute string as MATLAB code
GLM	@formula	create formula to be fitted as linear model
GLM	fit	fit model with given formula on data
GLM	coef	return value of fitted coefficients
GLM	stderror	return standard error of fitted coefficients
GLM	coeftable	return a table with coefficients and related statistics of the model
GLM	r2	return R^2 of model
GLM	adjr2	return adjusted R^2 of model
GLM	aic	return AIC of model
GLM	bic	return BIC of model

GLM	loglikelihood	return log-likelihood of model
GLM	predict	given a fitted model, return predictions on data
MixedModels	fixef	return fixed effect coefficients for fitted model
MixedModels	ranef	return conditional modes of random effects of fitted model
Optim	optimize	take in a function, starting point and optionally gradients and bounds to return a minimized solution
Optim	Optim.minimizer	return argument that minimized function
Optim	Optim.minimum	return value of function at the minimum
DifferentialEquations	ODEProblem	given an equation for the dynamics, intial conditions and timespan, return problem specification
DifferentialEquations	solve	given a problem specification, numerically integrate it
